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Within-Group Health Disparities Among Blacks: The Effects of Afrocentric Features and Unfair Treatment

Nao Hagiwara,

Department of Psychology, Virginia Commonwealth University

Louis A. Penner,

Department of Oncology, Karmanos Cancer Institute/Wayne State University

Richard Gonzalez, and

Department of Psychology, University of Michigan

Terrance L. Albrecht

Department of Oncology, Karmanos Cancer Institute/Wayne State University

Abstract

Prior research on the impact of Afrocentric features on health has focused primarily on a single feature, skin color. We explored the effects of two other Afrocentric features (lip thickness, nose width) on Blacks' health status and whether unfair treatment mediates any relationship between these features and health. A secondary analysis of a prior study of Black patients' health was conducted. Patients with strong (high lip and high nose ratios) and weak (low lip and low nose ratios) Afrocentric features (i.e., congruent features) had poorer health than patients with incongruent features. Unlike findings for skin color, congruence of features rather than strength predicted health. Congruence predicted perceived unfair treatment in the same manner. Importantly, perceived unfair treatment mediated the relation between Afrocentric features and health. The study suggests that even subtle differences in Afrocentric features can have serious long-term health consequences among Blacks. Clinical implications of the findings are discussed.

Keywords

Afrocentric features; feature-based bias; perceived unfair treatment; health; Blacks

Visible physical characteristics affect not only category-based bias but also feature-based bias (Blair & Judd, 2011). At the explicit level, people perceive Blacks with stronger Afrocentric features (darker skin and eye colors, wider nose, thicker lips, coarse hair, etc.) as possessing more stereotypical Black traits than those with weaker Afrocentric features (Blair, Judd, Sadler, & Jenkins, 2002). At the implicit level, people evaluate Blacks with stronger Afrocentric features more negatively than those with weaker Afrocentric features (Livingston & Brewer, 2002). These feature-based biases occur among both White and Black perceivers (Dixon & Maddox, 2005). Because these biases are rather automatic (Blair, Judd, & Fallman, 2004), they are often expressed in subtle forms despite people's level of explicit bias or motivation to inhibit negative reactions to Blacks (Blair, Judd, & Chapleau, 2004; see also Dovidio & Gaertner, 2004).

This study addresses how these features actually affect Blacks, particularly their health. A few studies have shown that darker skin color is associated with greater risks for hypertension possibly due to increased unfair treatment associated with darker skin color (Borrell, Kiefe, Williams, Diez-Roux, & Gordon-Larsen, 2006; Klonoff & Landrine, 2000). However, as Williams and Mohammed (2009) pointed out, further research on these associations are needed. We examined the relationship among Afrocentric features, health, and perceived unfair treatment.

This study extends prior work on Afrocentric features and health in several ways. First, we focused on facial features rather than skin color. Skin color is only one of several important features that define Afrocentric features. Importantly, Afrocentric facial features are only moderately correlated with skin color (Hagiwara, Kashy, & Cesario, 2012). Further, lip thickness and nose width have been found to play a role as important as skin color when defining Afrocentricity (Blair & Judd, 2011); they have independent effects from skin color on facial perception/recognition (Russell & Sinha, 2007) and feature-based bias (Hagiwara et al., 2012). If each Afrocentric feature has unique effects, then information about how they affect Blacks' health may help researchers and practitioners better understand health disparities. Second, we tested a mediational model of how Afrocentric features are related to health through the experience of unfair treatment. Borrell et al., (2006) proposed such a model but did not directly test it. Finally, in contrast to prior studies of Afrocentric facial features, (e.g., Blair et al., 2002), we used objective measures rather than subjective judgments of how "Afrocentric" or "prototypical of Blacks" the targets appeared.

Method

Participants

Participants were 90 Black patients (80.0% women, $M_{age} = 41.66$, $SD = 12.96$ years old, 44.7% income < \$20,000, 46.6% high school graduate) who were part of a previous longitudinal study of Black patients' health (see Penner et al., 2009).

Procedure

In the original study, participants completed a questionnaire that included measures of perceived unfair treatment, physical/mental health, and demographic characteristics shortly before participating in a video-recorded interaction with their physician. They also completed questionnaires 4 and 16 weeks later that included measures of physical/mental health. Patients' medical charts were also reviewed. For details of the original study see Penner et al. (2009).

Measures

Facial features—Two coders measured face length, face width, lip thickness, and nose width [intrater r 's = .83 (lip thickness) to .99 (face length)]. To control for variability in facial size across patients, ratios (i.e., lip thickness/face length; nose width/face width) were computed. The ratios were averaged across coders and standardized.

Perceived unfair treatment—Participants indicated whether they had ever experienced unfair treatments in seven social domains (e.g., education, jobs, and police) and then made an attribution about the cause (Brown, 2001). The sum of 1 = *yes*, 0 = *no* responses was computed, regardless of the attributions made (odd-even reliability, Spearman-Brown correction = .74).

Patient health—*Self-reported physical health* was assessed using the general health subscales ($\alpha = .84$) from the RAND 20-item Short Form Health Survey (Ware, Sherbourne,

& Davies, 1992). *Self-reported mental health* was assessed with the 2-item anxiety ($r = .37$) and the 2-item depression ($r = .57$) subscales. Participants' medical charts were also reviewed for the presence/absence of asthma, diabetes, high cholesterol, and hypertension. *The number of chronic illnesses* was computed as an objective measure of physical health.

Results

A multiple regression revealed that neither lip ratio nor nose ratio alone predicted *self-reported physical health*. However, the interaction between the two ratios was significant, $B = -1.01$, $SE = .48$, $p < .05$ [$R^2 = .13$, $F(4, 83) = 3.03$, $MSE = 16.69$, $p < .05$]. Patients with either high lip and high nose ratios or with low lip and low nose ratios (i.e., congruent ratios) reported poorer physical health than those with incongruent lip and nose ratios (see Figure 1). Neither of the ratios or the interaction between them predicted self-reported mental health.

A Poisson regression (for a frequency outcome) revealed that neither the lip ratio nor the nose ratio predicted the *number of chronic illnesses*. However, again, the interaction term was significant, $B = .36$, $SE = .16$, $p < .05$ [$Likelihood^2(4) = 19.59$, $p < .001$]. Consistent with self-reported physical health, patients with congruent lip and nose ratios had a greater number of chronic illnesses (i.e., poorer health) than those with incongruent lip and nose ratios (see Figure 2).

Finally, we conducted mediation analysis, using the number of chronic illnesses as the outcome because it was assessed at a different time from the mediator–perceived unfair treatment. Perceived unfair treatment had a zero-inflated Poisson, which consisted of binary (i.e., whether or not patients have ever experienced unfair treatment) and count parts (i.e., the amount of unfair treatment they reported; Cameron & Trivedi, 1998). Thus, we tested mediation models for each part, using a bootstrap method with $N = 5,000$. Only the model for the count part was significant, $b = .33$, $SE = .10$, $p = .001$, $CI = .01-.30$, indicating that facial features significantly affected the *amount* of reported unfair treatment, which, in turn, affected physical health.

Discussion

Unlike prior research on skin color and health (e.g., Borrell et al., 2006), we did not find a simple linear relationship between the strength of Afrocentric features and their health. Rather, Blacks with either very strong (i.e., high lip and nose ratios) or very weak (i.e., low lip and nose ratios) Afrocentric features experienced poorer physical health than Blacks with incongruent features. Thus, the current study demonstrated that the impact of Afrocentric features on Blacks' health may be more complex than prior work on just skin color might suggest. Further, the relation between facial features and physical health was mediated through perceived unfair treatment, suggesting that, contrary to biological models, the effects of Afrocentric features on Blacks' health are probably due to the social consequences of these features.

The results for Blacks with very strong Afrocentric features are quite consistent with prior research showing that strong Afrocentric features tend to elicit negative reactions in both White and Black perceivers (Maddox & Gray, 2002). However, we did not expect Blacks with weak Afrocentric features to report as much unfair treatment and poor physical health as those with strong Afrocentric features. Research has shown that, within Black communities, there are sometimes expressions of anger and jealousy toward light-skinned Blacks (Kelly & Greene, 2010; Russell, Wilson, & Hall, 1992). In fact, several participants in the current study reported receiving unfair treatment from other Blacks. For example, one

participant reported that her neighbors unfairly treated her because she talked like White. There is evidence that unfair treatment by ingroup members can have negative health consequences for Blacks. For example, Blacks react to unfair treatment with greater “threat” physiological reactions and cortisol increases when the unfair treatment comes from Blacks than from Whites (Jamieson, Koslov, Nock, & Mendes, in press; Mendes, Major, McCoy, & Blascovich, 2008).

Why did Blacks with incongruent lip and nose ratios report less unfair treatment and better physical health than Blacks with congruent ratios? One possibility is that both Whites and Blacks can find a feature similar to theirs in Blacks with incongruent ratios, which may reduce negative reactions to the other feature. Thus, Blacks who possess physical features to which both Whites and Blacks can relate to may experience less unfair treatment from both ingroup and outgroup members.

Another finding that merits mention was that unfair treatment had no impact on mental health. Some researchers (Jackson & Knight, 2006) have suggested the inconsistency between the impact of discrimination on physical and mental health may be due to Blacks engaging in behaviors (e.g., alcohol use, binge eating) that may serve to cope with or diminish the negative psychological impact of unfair treatment but increase risks for physical illnesses.

Limitations

In addition to general limitations associated with secondary data analysis (e.g., inability to directly assess the sources of unfair treatment), this study was limited to a sample of participants who were very low socioeconomic status (SES) individuals, living in one of the most racially segregated cities in the United States (U.S. Census Bureau, 2010). Although this is not an atypical circumstance for many Blacks in the U.S., we do not know whether Blacks with very weak Afrocentric facial features would also report higher levels of perceived unfair treatment if they were of higher SES and/or had more informal contact with Whites. Future research should attempt to replicate the current findings in other social environments.

Another important limitation was that the lighting and background in the clinic rooms prevented us from accurately measuring other Afrocentric features (e.g., skin color, hair texture). Because *congruency*, rather than strength, of features predicted both health and perceived unfair treatment, it seems unlikely that our findings were due to differences in skin color or hair texture. However, such features could interact with facial features to affect Blacks’ experiences. Although skin color and facial features have been found to independently affect perceivers’ reactions in studies that dichotomized these features (i.e., dark vs. light skin color, strong vs. weak facial features; Hagiwara et al., 2012; Stepanova & Strube, 2009), one recent study has shown that they interact when each was assessed as a continuous measure (Stepanova & Strube, 2012). Future studies should examine how multiple features jointly affect Blacks’ experiences.

Summary and Conclusions

Notwithstanding these limitations, the current findings have important theoretical implications. First, they indicate that the nature of the effects of Afrocentric features on Black targets’ social experiences may be different from that of the effects of Afrocentric features on perceivers’ reactions. These findings highlight the importance of examining the effects of Afrocentric features from both the perceiver’s and target’s perspectives. Second, the fact that it was *congruence* rather than the *strength* of Afrocentric features that predicted

health suggests that the impact of these features on Blacks' social experiences may be more complex than prior research on skin color and health suggests.

Our findings also have important clinical implications for Black–White health disparities. First, they suggest that interventions designed to reduce the negative effects of unfair treatment on Blacks' health or to improve the quality of medical interactions between Black patients and non-Black physicians may need to consider unfair treatment not only from outgroup members, but also from ingroup members. Specifically, effective interventions should address the potential negative effects of unfair treatment by ingroup members on Blacks' health and their health-care-seeking behavior. Second, irrespective of the source of the unfair treatment, the present findings suggest that when interacting with Black patients, health care providers need to understand that their patients' health is affected by social factors, which can be found sometimes in subtle forms, in addition to biological factors. Health care providers could explore patients' perceptions of their social world, specifically perceptions of unfair treatment. This could help providers better understand the etiology of their patients' health problems and develop treatment plans and targeted interventions that are more likely to be effective within Black communities. Finally, the findings argue for more sophisticated training of health care providers who treat racial minority patients. Diversity training in medical schools tends to focus on reducing providers' bias toward Blacks as a homogenous social group. However, the current findings can be used to inform health care providers that their behavior toward individual Black patients may vary because of subtle aspects of patients' physical characteristics. Research suggests that awareness is one of the important first steps in reducing expressions of such bias (Monteith & Mark, 2005).

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References

- Blair, IV.; Judd, CM. Afrocentric facial features and stereotyping. In: Adams, RB., Jr; Ambady, N.; Nakayama, K.; Shimojo, S., editors. *The science of social vision*. Vol. 18. New York, NY: Oxford University Press; 2011. p. 306-320.
- Blair IV, Judd CM, Chapleau KM. The influence of Afrocentric facial features in criminal sentencing. *Psychological Science*. 2004; 15:674–679.10.1111/j.0956-7976.2004.00739.x [PubMed: 15447638]
- Blair IV, Judd CM, Fallman JL. The automaticity of race and Afrocentric facial features in social judgments. *Journal of Personality and Social Psychology*. 2004; 87:763–778.10.1037/0022-3514.87.6.763 [PubMed: 15598105]
- Blair IV, Judd CM, Sadler MS, Jenkins C. The role of Afrocentric features in person perception: Judging by features and categories. *Journal of Personality and Social Psychology*. 2002; 83:5–25.10.1037/0022-3514.83.1.5 [PubMed: 12088132]
- Borrell LN, Kiefe CI, Williams DR, Diez-Roux AV, Gordon-Larsen P. Self-reported health, perceived racial discrimination, and skin color in African Americans in the CARDIA study. *Social Science & Medicine*. 2006; 63:1415–1427.10.1016/j.socscimed.2006.04.008 [PubMed: 16750286]
- Brown TN. Measuring self-perceived racial and ethnic discrimination in social surveys. *Sociological Spectrum*. 2001; 21:377–392.10.1080/027321701300202046
- Cameron, AC.; Trevedi, PK. *Regression Analysis of Count Data*. New York, NY: Cambridge University Press; 1998.
- Dixon TL, Maddox KB. Skin tone, crime news, and social reality judgments: Priming the stereotype of the dark and dangerous Black criminal. *Journal of Applied Social Psychology*. 2005; 35:1555–1570.10.1111/j.1559-1816.2005.tb02184.x

- Dovidio, JF.; Gaertner, SL. Aversive racism. In: Zanna, MP., editor. *Advances in experimental social psychology*. Vol. 36. San Diego, CA: Academic Press; 2004. p. 1-51.
- Hagiwara N, Kashy DA, Cesario J. The independent effects of skin tone and facial features on Whites' affective reactions to Blacks. *Journal of Experimental Social Psychology*. 2012; 48:892–898.10.1016/j.jesp.2012.02.001
- Jackson, JS.; Knight, KM. Race and self-regulatory health behaviors: The role of the stress response and the HPA axis in physical and mental health disparities. In: Schaie, KW.; Cartensen, L., editors. *Social structures, aging, and self-regulation in the elderly*. New York, NY: Springer; 2006. p. 189-207.
- Jamieson JP, Koslov K, Nock MK, Mendes WB. Experiencing discrimination increases risk-taking. *Psychological Sciences*. in press.
- Kelly JF, Greene B. Diversity within African American, female therapists: Variability in clients' expectations and assumptions about the therapist. *Psychotherapy: Theory, Research Practice, Training*. 2010; 47:186–197.10.1037/a0019759
- Klonoff EA, Landrine H. Is skin color a marker for racial discrimination? Explaining the skin color-hypertension relationship. *Journal of Behavioral Medicine*. 2000; 23:329–338.10.1023/A:1005580300128 [PubMed: 10984862]
- Livingston RW, Brewer MB. What are we really priming? Cue-based versus category-based processing of facial stimuli. *Journal of Personality and Social Psychology*. 2002; 82:5–18.10.1037/0022-3514.82.1.5 [PubMed: 11811634]
- Maddox KB, Gray SA. Cognitive representations of Black Americans: Reexploring the role of skin tone. *Personality and Social Psychology Bulletin*. 2002; 28:250–259.10.1177/0146167202282010
- Mendes WB, Major B, McCoy S, Blascovich J. How attributional ambiguity shapes physiological and emotional responses to social rejection and acceptance. *Journal of Personality and Social Psychology*. 2008; 94:278–291.10.1037/0022-3514.94.2.278 [PubMed: 18211177]
- Monteith MJ, Mark AY. Changing one's prejudice ways: Awareness, affect, and self-regulation. *European Review of Social Psychology*. 2005; 16:113–154.10.1080/10463280500229882
- Penner LA, Dovidio JF, Edmondson D, Dailey RK, Markova T, Albrecht TL, Gaertner SL. The experience of discrimination and Black–White health disparities in medical care. *Journal of Black Psychology*. 2009; 35:180–203.10.1177/0095798409333585
- Russell, K.; Wilson, M.; Hall, R. *The color complex: The politics of skin color among African Americans*. New York, NY: Harcourt Brace Jovanovich; 1992.
- Russell R, Sinha P. Real-world face recognition: The importance of surface reflectance properties. *Perception*. 2007; 36:1368–1374.10.1068/pp.5779 [PubMed: 18196702]
- Stepanova EV, Strube MJ. Making of a face: Role of facial physiognomy, skin tone, and color presentation mode in evaluations of racial typicality. *The Journal of Social Psychology*. 2009; 149:66–81.10.3200/SOCP.149.1.66-81 [PubMed: 19245048]
- Stepanova EV, Strube MJ. The role of skin color and facial physiognomy in racial categorization: Moderation by implicit racial attitudes. *Journal of Experimental Social Psychology*. 2012; 48:867–878.10.1016/j.jesp.2012.02.019
- U.S. Census Bureau. *CensusScope-2010 Census*. 2010. Retrieved December 13, 2012, from <http://censuscope.org/2010Census/PDFs/Dissimilarity-Metros-Black.pdf>
- Ware, JE.; Sherbourne, CD.; Davies, AR. Developing and testing the MOS 20-item short-form health survey: A general population application. In: Stewart, AL.; Ware, JE., editors. *Measuring functioning and well-being: The medical outcomes study approach*. Durham, NC: Duke University Press; 1992. p. 277-290.
- Williams DR, Mohammed SA. Discrimination and racial disparities in health: Evidence and needed research. *Journal of Behavioral Medicine*. 2009; 32:20–47.10.1007/s10865-008-9185-0 [PubMed: 19030981]

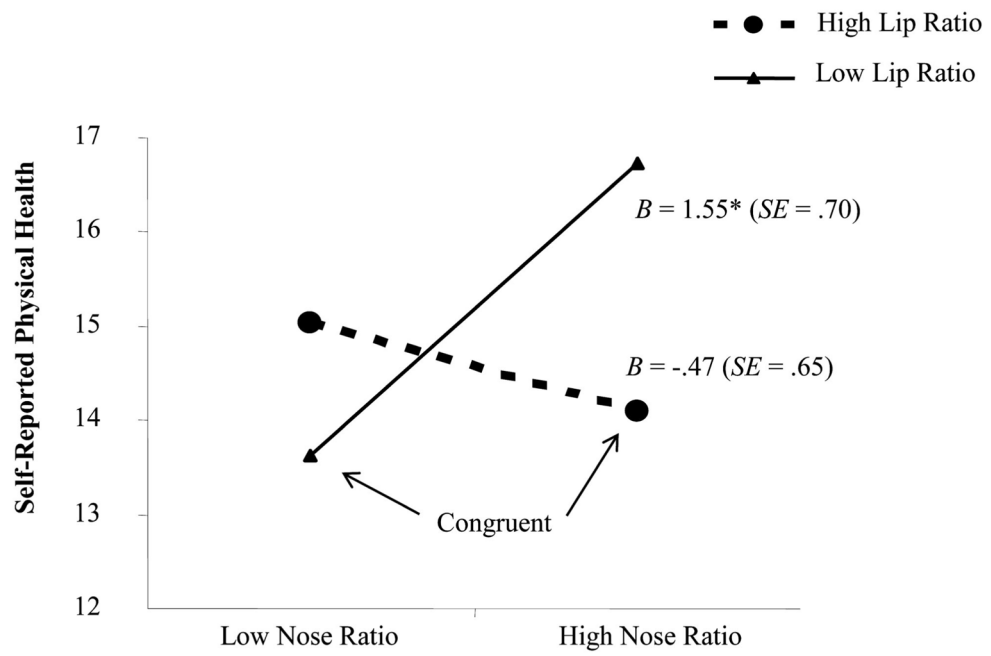


Figure 1. Simple slopes examining the effect of nose ratio on self-reported physical health at different levels of lip ratios (1SD above and below the mean). Note: * $p < .05$.

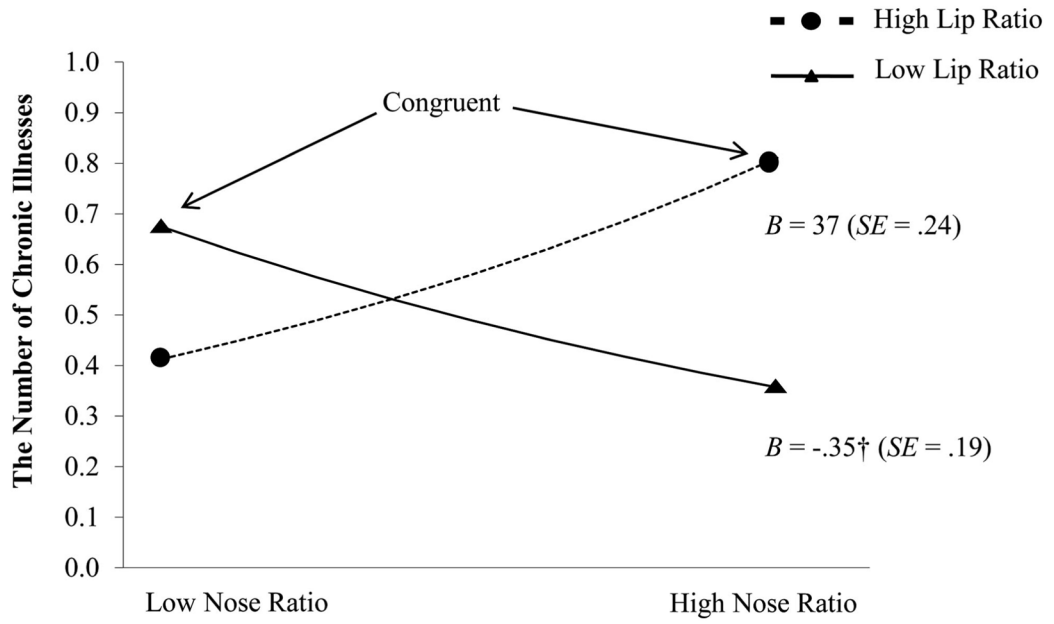


Figure 2. Simple slopes examining the effect of nose ratio on chronic illnesses at different levels of lip ratios (1SD above and below the mean). Note: † $p < .10$.